

Remarks

This amendment is responsive to the Office Action mailed March 24, 2003 in connection with the above-identified patent application. Reconsideration of claims 1-29 is respectfully requested.

The Office Action

Claim 17 was objected to because of the informalities.

Claim 6 stands rejected under 35 U.S.C. 102(b) as being anticipated by Cooper (U.S. patent No. 4,145,612).

Claims 1-5, 7-14, and 17-29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (U.S. patent No. 4,145,612) in view of Velazquez (U.S. Patent No. 4,484,571).

Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (U.S. patent No. 4,145,612) in view of Velazquez (U.S. Patent No. 4,484,571) and further in view of Lussi (U.S. Patent No. 5,754,997).

Claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (U.S. patent No. 4,145,612) in view of Velazquez (U.S. Patent No. 4,484,571) and further in view of Pegrum (U.S. Patent No. 3,627,250).

Non-Art Objections

The Examiner's objections to the informalities in Claim 17 have been addressed by the amendments. It is respectfully requested these objections be withdrawn.

The Present Application

For purposes of review, the present application is directed to a low shadow accessory interface profile provided on a radiolucent surgical table. The interface profile includes a plurality of interconnected curved surfaces formed along the outer edge of a patient support member portion of

the surgical table for selective attachment to a range of medical accessory devices. The preferred embodiment of the support interface includes a non-planar first connection area formed by the patient support member and having a recess and a curved lip area adapted to engage correspondingly formed surfaces on a medical accessory connector. A second connection area of the preferred support interface includes a planar locating surface formed by the patient support member at an angle oblique relative to the top surface of the patient support member. Engagement with the locating surface by corresponding surfaces formed on the medical accessory connectors generate a downward force that causes an increase in the engagement forces at the first connection area, namely between the recess and the lip areas of the interface and corresponding surfaces on the accessory connectors.

One significant advantage of the accessory interface of the present application is that it provides a substantially uniform attenuation characteristic to x-ray signals in both the lateral and transverse directions and with the table held flat or tilted relative to the x-ray signal source. Preferably, the accessory interface profile presents a substantially uniform attenuation characteristic to x-rays passing through the table top and table top edges regardless of the angle of the table top relative to the x-ray source. In that way, the radiographic images of a patient disposed on such surgical table are free and clear of extraneous shadows.

Another advantage of the interface of the present application is that, in addition to being substantially x-ray shadow free, an accessory interface is provided so that a wide range of surgical accessories can be easily and directly connected anywhere along the edge of the table top.

The References of Record

U.S. Patent No. 4,145,612 to Cooper discloses a base 11 having an elongated patient support stretcher 12. (Col. 3, lines 1-2). The stretcher has a trapezoidal cross section with sharp edges. No specifically designed interface accessory structure is provided. It is assumed that accessory equipment could potentially be connected to the stretcher using its top and bottom surfaces and perhaps onto its sloped side. Therefore, three connection areas may be identified as (1) the distal edge extending on the top surface of the stretcher; (2) the sloped side surface of the stretcher; and (3) the distal edge extending on the bottom surface of the stretcher. All three connection areas are planar.

The Cooper '612 patent is directed to a construction of a durable patient stretcher. The significance of a low attenuation characteristic of the patient support stretcher is not critical and, accordingly, is not discussed or described. (Col. 2, lines 29-30).

U.S. Patent No. 4,484,571 to Velazquez discloses a patient support table having additional separately-formed elongated members 39, 41 attached on opposite sides of the lateral edges of the table. Accessory equipment is selectively connected to the stretcher along members 39, 41. The members 39, 41 have track edges configured as cylindrical channels 35 and 37. (Col. 4, lines 23-25). Alternatively, a rod like surface 40 is provided along the length of each of members 39 and 41. (Col. 4, lines 44-46).

Claims 1-5 are in Condition for Allowance:

Independent Claim 1 recites a medical appliance support interface in a radiolucent patient support table including planar top and bottom surfaces held apart in an

opposed relationship. The support interface is useful for selectively connecting an associated medical appliance to the table. The interface comprises a non-planar first connection area defined by the top surface of the support table, and a second connection area defined by the table. The first connection area is shaped to provide a first supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces of the support table, and a second supporting force against the associated medical appliance in a second direction substantially perpendicular to the top and bottom surfaces. The second connection area provides a third supporting force against the associated medical appliance in a third direction substantially parallel to the top and bottom surfaces of the support table, and a fourth supporting force against the associated medical appliance in a fourth direction substantially perpendicular to the top and bottom surfaces.

Independent **claim 1** stands rejected as being unpatentable over the teachings of the Cooper '612 patent in view of the Velazquez '571 patent. The Examiner took the position that the patient support stretcher of the Cooper patent shows a first connection area defined on the top surface of a surgical table, the first connection area being shaped to provide a first supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces, and a second supporting force against the associated medical appliance in a second direction substantially perpendicular to the top and bottom surfaces.

It is unclear to applicants where the Examiner finds in the table top of the Cooper patent a connection area defined on the top surface of the table and shaped to provide a supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom

surfaces of the table. The table top taught in the Cooper patent has a substantially trapezoidal cross-section shape and, as such, the table top is completely flat. Applicants can see no connection area defined on the top surface of the support table which would provide any forces whatsoever against an associated medical appliance in directions substantially parallel to the top and bottom surfaces of the table.

The limitation of a connection area defined by the top surface of the support table is clearly recited as a limitation in independent claim 1 as amended above. The first connection area provides a supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces of the table. This limitation is also clearly recited in independent claim 1. Applicants can find no corresponding structure or functionality in the table top taught in the Cooper patent.

In order to remedy the deficiency of the trapezoidally shaped table top configuration taught in the Cooper patent, the Examiner cited the Velazquez '571 patent for its teachings of additional elongate members 39 and 41 which are secured to the edges of a cradle 11. In Velazquez, runners 27, 29, 31, and 33 are adapted to slide between points designated A and B (Fig. 2) on tracks 35 and 37 formed, respectively, in elongated members 39 and 41 which are secured to the edges of the cradle 11. The free and easy movement of the runners on the tracks permits the position of straps 12 and 14 to be easily adjusted to effectively accommodate patients of varying heights. It is to be appreciated, however, that the addition of the elongated members 39 and 41 onto the edges of the cradle 11 will result in images formed in the radiographic process, an undesirable characteristic which is avoided by the medical appliances support interface in accordance with embodiments of the present invention.

Applicants respectfully submit that the Examiner's combination of the Velazquez elongated members 39, 41 onto the trapezoidal table of Cooper is an improper hindsight combination. Even if those teachings were combined, however, they would not result in the advantageous benefits provided by the subject medical appliance support interface of a substantially shadow-free image realized because the first and second connection areas are defined by the table.

In addition to the above, independent **claim 1** an amended clearly recites the limitation that the first and second connection areas are defined by the table.

For at least the above reasons, it is respectfully submitted that independent claim 1 and claims 2-5 dependent therefrom are patentably distinct and unobvious over the art of record.

Claims 17-20 are in Condition for Allowance:

Independent **claim 17** recites a medical appliance support interface in a radiolucent patient support table for selectively connecting an associated medical appliance to the table. The interface comprises a curved first connection area defined by the top surface of the support table and a second connection area defined by the table and shaped to provide supporting force against the associated medical appliance.

Again, it is respectfully submitted that none of the art cited by the Examiner provides connection areas defined by a patient support table. This results in a substantially shadow free radiographic image at the table edge. The Examiner has only cited art which, when combined, would lead line traces in radiographic images developed.

For at least the above reasons, it is respectfully submitted that independent claim 17 and claims 18-20

dependent therefrom are patentably distinct and unobvious over the art of record.

Claims 21-29 are in Condition for Allowance:

Independent claim 29 is directed to a medical appliance interface comprising a table top, a groove defined by an upper surface of the table top, a ridge defined by a lower surface of the table top, and a substantially flat side surface extending between the upper edge of the table top and the lower edge of the table top.

Again, none of the art cited by the Examiner teaches or suggests grooves, ridges, or other features defined by the table top which would provide a medical appliance interface.

For at least the above reasons, it is respectfully submitted that independent claim 21 and claims 22-29 dependent therefrom are patentably distinct and unobvious over the art of record.

Claims 6-16 are in Condition for Allowance:

Independent claim 6 recites a surgical table comprising a base member, a column connected with the base member, a rectangular radiolucent patient support member carried on the column, and a low radiographic shadow accessory connection interface defined by a plurality of curved surfaces of the patient support member along at least one edge of the patient support member for selectively connecting an associated accessory to the patient support member.

Claim 6 was rejected as being anticipated by the Cooper '612 patent. Claims 7-16 were rejected as being anticipated by the Cooper '612 patent in view of the Velazquez '571 patent.

It is respectfully submitted that none of the art cited by the Examiner teaches, suggests, or describes an accessory connection interface defined by a plurality of curved surfaces of a patient support member for selectively connecting an associated accessory to the patient support member. At best, the elongated members 39, 41 of the Velazquez '571 patent were suggested as being combinable with the trapezoidal shaped table top of the Cooper patent which, as indicated above, would result in disadvantageous line traces in radiographic images formed therewith.

In view of the above amendments and comments provided, it is respectfully submitted that independent claim 6 and claims 7-16 are patentably distinct and unobvious over the art of record.

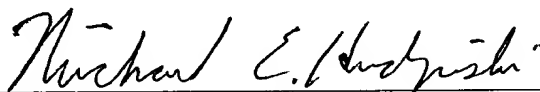
CONCLUSION

In view of the above amendments, comments, and arguments presented, it is respectfully submitted that all pending claims are patentably distinct and unobvious over the references of record.

Allowance of all claims and early notice to that effect is respectfully requested.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & MCKEE, LLP



Thomas E. Kocovsky, Jr.
Reg. No. 28,383
Michael E. Hudzinski
Reg. No. 34,185
1100 Superior Avenue,
Seventh Floor
Cleveland, Ohio 44114-2518
216-861-5582